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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,165	09/01/2000	Itsuto Nakanishi	043931/0114	6017

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WASHINGTON, DC 20007

EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,165

Applicant(s)

NAKANISHI, ITSUTO

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35, 38-40 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-35 and 38-40 is/are allowed.
- 6) ☒ Claim(s) 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGrevy in view of Kowtko.

McGrevy teaches the claimed apparatus having a first array of injection nozzles (23; left side of 18 in Fig. 2), each nozzle having a melt channel and valve pin (48), a second array of injection nozzles (23, right side of 18 in Fig. 2), a melt distribution manifold between the first and second arrays of nozzles (19), a first actuating assembly comprising at least one actuator (pistons 40a, 40b) moved by pneumatic fluid (Col. 4, lines 53-59) and a common linkage element (piston units 42a-42d) that are driven by the piston and linked to all the valve pins (Col. 3, lines 61-67 and Col. 4, lines 1-5), the piston units (42a-42d) being interdigitated or nesting relationship thereby forming the

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common linkage. The second actuating assembly formed on the opposing side (Fig. 2). The actuator provides motive force via pneumatic fluid (Col. 4, lines 53-59) to actuate the common linkage and thereby move the valve pins of it respective array of injection nozzles. The actuators are capable of independent movement from the pneumatic fluid supply thereby making the first and second arrays of nozzle move in opposite directions to close the gates of their respective injection nozzles. The actuators are located between and centrally among the nozzles that they actuate.

McGrevy fails to teach separate linkage elements.

Kowtko teaches an array of nozzles (88), wherein a common linkage element (94) connects and moves the valve pins (96) in the array. The linkage element for the array is actuated by a piston element (114).

McGrevy teaches two separate arrays located back to back, while Kowtko teaches an array of nozzles actuated by a common linkage element. The common linkage element would only connect a single array into common movement, thus a second common linkage element would be needed to affect the second array.

It would have been obvious to one of ordinary skill in the art to modify McGrevy with the common linkage elements as taught by Kowtko because it allows for actuation of multiple nozzles in an array with only a single actuator.

Allowable Subject Matter

4. Claims 1-35 and 38-40 are allowed.

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5. The following is a statement of reasons for the indication of allowable subject matter:

For claims 1-35, the prior art of record fails to teach a first and second array of nozzles and valve pins, a manifold, a first and second actuating assembly for displacing the valve pins of the respective array of nozzles comprising at least one actuator and a common linkage element driven by the actuator and linked to all the valve pins of the respective array of nozzles, and further having the first and second actuating mechanisms operable independently. The closest prior art, McGrevy, has a common actuator that drives both actuating mechanisms, thus the mechanisms could not operate independently.

For claims 38-40, the prior art of record fails to teach actuators located between or centrally located in the injection nozzle, the actuator located under the manifold. The term "under" is in relation to the actuator being between the manifold and the tip of the nozzle. The orientation of the array of injection nozzles is with the manifold on top of the nozzles. Gellert and Diaz fails to teach an actuator located in between the injection nozzles for actuating the linking element, instead the actuator is located either to the side or if located centrally within the nozzles, the actuator would be positioned "above" the nozzles.

Response to Arguments

6. Applicant's arguments with respect to claims 1-35 and 38-40 have been considered, but the newly added claim 43 has been rejected. The new claim is an independent claim different from the other claims and is now rejected over McGrevy in view of Kowtko. Claims 1-35 and 38-40 have been indicated allowable.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (703) 305-1558. The examiner can normally be reached on Monday through Friday 8 to 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

E.L.


JOSEPH DRODGE
PRIMARY EXAMINER